

**To:** McCoy, Erin[McCoy.Erin@epa.gov]  
**From:** Williams, Mike  
**Sent:** Mon 12/19/2016 4:18:29 PM  
**Subject:** RE: Des Moines TCE Site Draft HHRA Addendum

Erin –

Yes. That schedule is doable. We'll have the revised HHRA back to you on or before January 6.

Thanks,

Mike

**Mike Williams** | Sr. Project Manager/Hydrogeologist

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**From:** McCoy, Erin [mailto:McCoy.Erin@epa.gov]  
**Sent:** Monday, December 19, 2016 9:43 AM  
**To:** Williams, Mike <Mike.Williams@tetrattech.com>  
**Cc:** Dorsey, Debra <Dorsey.Debra@epa.gov>  
**Subject:** RE: Des Moines TCE Site Draft HHRA Addendum

Mike, below are the comments on the draft HHRA Addendum. I know that we are behind on the schedule in getting them back to you. It looked like you scheduled a week for yourself to update comments and get it back to me. Due to the holiday season, I doubt that is possible.

As the delay was initiated on our end, I'd like to have the revised report back to us no later than

January 6<sup>th</sup>. Do you think that is doable?

Let me know if you have any questions. Thanks!

1. Section 1.1 does not mention that vapor intrusion was evaluated. Add to the text and resubmit.

2. Section 2.2.1, page 2-5. Please modify the text to explain why only soil samples collected from beneath the buildings used in the Addendum and resubmit.

3. Section 2.3.1.2, page 2-9. Although both documents are cited in the text, please note that EPA's 2002 vapor intrusion guidance was superseded by the EPA's 2015 vapor intrusion guidance (EPA, 2015). Please remove all reference to the 2002 guidance and resubmit.

4. Section 2.3.1.2, page 2-9. The last sentence says that modeled indoor air concentrations can be found in Attachment 4. Should that be Attachment D? Modify and resubmit.

5. Section 2.3.2.1, page 2-13. When discussing the dermal absorption factor in relation to dermal contact with soil, the correct acronym is ABSd, not DAF (dilution attenuation factor). The ABS (or ABSd) is presented in the EPA RSL tables. The DAF is presented in the RSL table User's Guide under the discussion of soil to groundwater contamination. The EPA's RSL tables and associated documents can be found at: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-may-2016>. Modify and resubmit.

6. Section 2.3.3.1, page 2-22. According to the FAQs about the update of the EPA's standard default exposure factors, the default skin surface areas for children and adults should be 2,373 cm<sup>2</sup> and 6,365 cm<sup>2</sup>, respectively. The FAQs can be found at: [https://www.epa.gov/sites/production/files/2015-11/documents/faqs\\_expfp\\_directive\\_2015\\_sept.pdf](https://www.epa.gov/sites/production/files/2015-11/documents/faqs_expfp_directive_2015_sept.pdf). Modify and resubmit.

7. Section 2.3.3.1, page 2-22. We could find no place in the EPA guidance that recommends a 72 year exposure duration, as is proposed in the last bullet on this page. Please provide a reference for where this exposure duration came from in the resubmittal.

8. Section 2.3.3.4, page 2-26. The construction worker skin surface area should be 3,300 cm<sup>2</sup>, as recommended in the EPA (2014). Modify and resubmit.

9. Section 2.3.3.5, page 2-27. The EPA (2014) recommends a child skin surface area of 2,373 cm<sup>2</sup> for both soil and sediment in a recreational use scenario. However, the risk assessment has that value for soil, and a different value for sediment, in its evaluation of the recreational use scenario. Modify and resubmit or explain why a different value is used for sediment.

10. Section 2.3.3.5, page 2-27. The second to the last bullet on this page is confusing. It appears that the degree of susceptibility to mutagenic effects is assumed to be mathematically equivalent to years. The point of this bullet is unclear, as is a similar bullet on page 2.28. Regardless, we could not find an exposure duration of 32 years in the EPA guidance. Please clarify these sections and reference where the exposure duration was found and resubmit.

11. Section 2.3.3.5, page 2-28. Typically, we expect that the child recreational and trespasser scenarios would have similar exposure factor values. However, the values shown here are substantially different than the EPA's recreational scenario values, and no explanation for such a variance is provided. Modify to use the same values or explain why a different value is used for sediment and resubmit.

12. Section 2.3.3.5, page 2-29. The assumption of 0.0125 L/d for the adolescent recreationalist lacks supporting rationale. And, the assumption of an exposure duration of 30 years for an adolescent trespasser is confusing. Please provide the rationale for this exposure duration and resubmit.

13. Section 2.3.3.5, page 2-29. As noted earlier, the appropriate skin surface area value for an adult is 6,365 cm<sup>2</sup>. The last bullet on this page uses a different sediment value than that used for soil. Modify to use the same values or explain why a different value is used for sediment and resubmit.

14. Section 2.3.3.5, page 2-30. The adult skin surface area value is not that used in the EPA guidance for the recreational scenario. Please provide a reference for where this exposure duration came from or use the value provided in the EPA guidance in the resubmittal.

15. Table 4.5.1, page 16 of 49. The table uses an exposure frequency of 130 days, and an exposure duration of one year for the construction worker scenario. However, page 2-26 describes the construction worker potentially being exposed 5 days per week for 18 weeks. In calculating potential risk for non-cancer health effects, this would give an exposure frequency of 90 days, over an averaging time of 126 days, for an exposure duration of one year. Modify and resubmit.

16. Table 4.5.2, page 18 of 49. The construction worker scenario here makes no allowances for incidental ingestion of groundwater in a trench. An incidental groundwater ingestion value of 50 ml/d would be an acceptable value. Modify and resubmit, or explain why this is unnecessary.

17. Table 4.10.1, page 44 of 49. Region 7 does not allow the use of fractional intake terms. Modify to use whole numbers and resubmit.

**From:** Bollinger, Karen [<mailto:Karen.Bollinger@tetrattech.com>]

**Sent:** Tuesday, October 25, 2016 1:23 PM

**To:** McCoy, Erin <[McCoy.Erin@epa.gov](mailto:McCoy.Erin@epa.gov)>

**Cc:** Williams, Mike <[Mike.Williams@tetrattech.com](mailto:Mike.Williams@tetrattech.com)>

**Subject:** Des Moines TCE Site Draft HHRA Addendum

Hello,

On behalf of Mike Williams, please find attached a .pdf copy of the above-referenced report.  
The hard copy & CD will follow.

Contact me if you have any questions.

Thanks,

Karen

**Karen Bollinger** | Contract Administrator

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